

*** NOTICES ***

Japan Patent Office is not responsible for any damages caused by the use of this translation.

1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

CLAIMS

(57) [Claim(s)]

[Claim 1] While the scanning line and a signal line cross mutually and are formed on [one] the substrate of this couple in the liquid crystal display element with which the substrate of a couple is prepared on both sides of the display medium in between. It connects with this scanning line and this signal line, and a switching element is formed. This scanning line, A picture element electrode is formed on the insulator layer which covered this signal line and this switching element, and was formed. And the output terminal and this picture element electrode of this switching element are connected through the contact hole prepared in this insulating layer. Moreover, it is the liquid crystal display element in which this display medium consists of a thing containing liquid crystal, and the liquid crystal molecule of the liquid crystal is carrying out orientation to the shape of an axial symmetry on one [at least] substrate of the substrate of this couple. The liquid crystal display element to which the crevice for controlling the axial position of the aforementioned axial-symmetry orientation exists in a part for the aforementioned insulating layer corresponding to a part for the center section of the aforementioned picture element electrode apart from the aforementioned contact hole.

[Claim 2] The liquid crystal display element according to claim 1 for which the aforementioned liquid crystal molecule is twisted 90 degrees of abbreviation between the substrates of the aforementioned couple.

[Claim 3] The liquid crystal display element according to claim 1 or 2 to which at least one liquid crystal field used as the axial-symmetry orientation of the aforementioned liquid crystal molecule exists in the aforementioned display medium for every aforementioned picture element electrode.

[Claim 4] The liquid crystal display element according to claim 3 surrounded in the field in which the aforementioned liquid crystal field is mainly concerned with a macromolecule.

[Claim 5] The liquid crystal display element of any one publication of the claim 1-4 which has become depressed in earthenware mortar-like structure or steps structure that the aforementioned picture element electrode should control the axial position of the aforementioned axial-symmetry orientation.

[Claim 6] The liquid crystal display element of any one publication of the claim 1-5 to which a cell thick adjustment means exists on [one / at least] the aforementioned scanning line and a signal line.

[Claim 7] The liquid crystal display element of any one publication of the claim 1-6 whose surface free energy on the aforementioned front face of an insulating layer is 40 or less mN/m.

[Claim 8] The liquid crystal display element of any one publication of the claim 1-7 by which the outside of the aforementioned picture element electrode or the macromolecule wall shorter than a cell thick size is prepared at least in the portion besides a picture element.

[Claim 9] The liquid crystal display element according to claim 8 which this resist is colored black by the aforementioned macromolecule wall consisting of a resist.

[Translation done.]